

Indiana "Pay-As-You-Throw" Case Study: City of Bloomington

Local and Program Considerations

Households: 13,000

Collection Arrangement:
Municipal collection

Container/Unit:
32-gallon bags

Rate Structure:
Unit-based/linear

Service Rates:
\$1.00 per bag or can for
trash service;
Free unlimited
curbside recycling.

Barriers:

- Public acceptance;
- Illegal dumping.

**Additional
Considerations:**

- City hired marketing consultant to promote the program;
- City linked PAYT to increased MSW service level to promote public acceptance;
- Monroe County SWMD videotaped pre-PAYT illegal dumping to document problem before PAYT started.

Careful Planning Contributes to PAYT Success

Background

In 1993, the City of Bloomington established Monroe County's first municipal "Pay-As-You-Throw" (PAYT) program. The original ordinance provided the City's rationale for establishing PAYT:

- Concern over increasing MSW costs, which previously were financed from the General Fund;
- User fees should be utilized to reduce MSW program reliance on the General Fund;
- User fees should be imposed to finance the cost of an expanded curbside recycling program; and,
- PAYT rates were introduced to promote recycling in pursuit of state waste reduction targets.

Rate Structure

The City of Bloomington established a "unit based" PAYT requiring every bag or can of trash to have a \$1.00 sticker. The City of Bloomington established a "non-reverting fund" in order to operate the MSW program as an enterprise fund. All revenue from the sales of trash stickers are dedicated to pay for the MSW program.

Even with the \$1.00 sticker fee, the City's PAYT program does not fully-fund its MSW program costs. In 2001, the City reported that the General Fund covered approximately 24% of trash costs. The recycling program is entirely funded from the General Fund.

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PAYT May Not Mean Self-Supported MSW Programs

Many Indiana PAYT programs do not finance all MSW costs—or even all trash costs—through user fees. Approximately one-third of PAYT programs report using the General Fund support for MSW programs.

Several communities report using General Fund resources due to concerns over public support for fully-financed PAYT programs. Some programs use PAYT to finance disposal costs, while others use them to partially finance collection and disposal costs.

Whether a PAYT program is self-supported or partially-funded from user fees is a local decision. Fully-funded programs seem more likely when the MSW previously was financed using flat-rate user fees or private subscriptions. Partially-financed PAYT programs seem more prevalent in communities that introduce user fees to ease reliance on the General Fund. Some communities have used partial-funding PAYT as an incremental step in a process that ultimately leads to self-supported PAYT.

For more information, call Christina Fulton at (812) 349-3410

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Marketing PAYT

An innovation for the City of Bloomington's PAYT program involved hiring a professional marketing firm to assist with public information and promotional activities.

The City's marketing consultant recommended linking the introduction of PAYT to the expansion of the City's curbside recycling. The City had already planned to expand the curbside recycling program, which was very popular with residents. However, the marketing specialist suggested that the "public perception" that PAYT would finance the expanded recycling program would increase public acceptance of the user fees.

The Bloomington program provides a textbook example of pricing strategy: Combining expanded service with increased trash fees—which is, in fact, how many residents perceive PAYT—can increase public acceptance of PAYT rates.

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from General Fund resources.

Planning for PAYT Barriers: Illegal Dumping

As one of Indiana's first PAYT programs, the City of Bloomington engaged in a thorough planning process to address potential barriers. One of the most creative planning strategies related to anticipating citizen concerns for illegal roadside dumping. Bloomington MSW staff used videocameras to document illegal roadside dumping before PAYT was started.

The City anticipated that some residents would begin to notice roadside dumping only after the PAYT program was introduced. The City benefited by its close working relationship with the Monroe County SWMD. The District started its drop-off PAYT program at approximately the same time as the City of Bloomington. The District was prepared to deflect illegal complaints by showing "pre-PAYT" and "post-PAYT" dumping conditions. When dumping complaints were reported, the City and District could show residents that the site in question had a pre-existing dumping problem. This creative planning helped defuse a strategy that many individuals have used to obstruct PAYT efforts.

Sustainability

The City of Bloomington has one of the oldest PAYT programs in the state of Indiana. The program is credited with contributing to the City's 45% diversion rate. In 2002, the City will consider increasing its sticker fee for the first time since 1993.

Explaining PAYT Impact on the General Fund

Many communities cite reducing pressure on the General Fund and the "crowding out" of essential services as a justification for PAYT financing for MSW collection. Such communities should be prepared for the question, "*What are you going to do with the extra money?*" The answer is easy if the community plans to return the "extra money" to residents in the form of reduced property taxes. If, however, the community does not intend to reduce household property taxes—which is usually the case since Indiana communities are limited to a 5% annual increase in the levy—program managers should identify "essential services" that will benefit due to PAYT.

Some communities earmark the "extra money" for politically-popular services like police, fire, EMTs, etc. One community calculated the number of additional police officers who could be hired if PAYT were approved. Elected officials should take citizen interest in the "extra money" very seriously.

At the public hearing for a PAYT program proposal, one elected official joked that the extra money would pay for salary increases. The citizenry did not think it was a joking matter and public support for PAYT dissipated. "*What are you going to do with the extra money?*" should be addressed before PAYT rates are proposed to the public.

Indiana "Pay-As-You-Throw" Case Study: City of Crawfordsville

Local and Program Considerations

Households: 4,000

Collection Arrangement:
Municipal

Container/Unit:
33-gallon bag or can

Rate Structure:
Modified (One-can limit)

Service Rates:
One can per week paid for
from General Fund;
\$0.50 for extra cans.

Barriers:

- Municipal capacity for recycling;
- Continued reliance on General Fund resources used to offset costs and gain public support.

Additional Considerations:

- Contractor hired for curbside recycling;
- City took over recycling program after 33% decrease in trash volume;
- Strong public support for reducing MSW disposal costs.

Background

In 1992 the City of Crawfordsville, located in Montgomery County, established one of the state's first "Pay-As-You-Throw" (PAYT) programs. The City's PAYT program was introduced in response to escalating disposal charges and the "property tax freeze," which has limited the annual increase in local tax levies to 5% since 1973.

PAYT User Fees Prompted by Increasing Disposal Costs

Mayor Philip Michal, who previously had served on the Montgomery County Solid Waste Authority, the County Board of Health, and the City Council, made the case that increased reliance on the General Fund for trash service would increasingly "crowd out" other essential services for funding. The increased disposal costs are shown below:

Montgomery County Landfill Costs

Year:	Disposal Charge(per ton):
1981	\$6.00
1993	\$27.00

Linking Curbside Recycling to PAYT

The City of Crawfordsville linked PAYT to the introduction of curbside recycling to improve public acceptance of the user fees. The City also cited HEA 1240, which established a 35% landfill disposal reduction target, in order to build support for the new fees and curbside recycling.

PAYT Program Components

The City of Crawfordsville introduced its PAYT program on September 14, 1992. Major components of the program are:

- Every household allowed one (1) 33-gallon container or bag of trash at no charge (financed from General Fund);
- Extra trash containers or bags required a \$0.50 sticker per unit (\$0.50 per unit contributed from General Fund);
- Stickers sold at five major grocery stores, two food marts, City Street Department, and municipal sewer utility office; and,
- Yard waste banned from municipal trash collection.

Immediate Impacts of PAYT

The City of Crawfordsville experienced an immediate 39% drop in trash
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Stickers or Bags?

The City of Crawfordsville selected stickers rather than special bags for its PAYT program. Mayor Philip Michal explained the City's rationale as follows:

- (1) City PAYT Bags would compete with retail trash bags;
- (2) Stickers take less shelf space;
- (3) Lower cost of stickers (\$0.05) compared to bags (\$0.13-\$0.15);
- (4) Bags subject to sales tax, but no sales tax on stickers.

Factors Contributing to Recycling Success

Public Administration Review

reported that, "Recycling success, as measured by participation and diversion, is clearly not dependent upon city socioeconomic characteristics or other political features of the community. What explained... recycling performance among cities were the specific recycling policies, the process by which communities made these decisions, and other features related to the program's operation."

The good news is that these findings "suggest that local officials can manage the factors most important for achieving high rates of recycling."

The communities with the most successful recycling programs:

- established clear and challenging goals for household diversion;
- provided curbside pick-up;
- provided free recycling bins;
- used compartmentalized trucks; and,
- had a separate composting program.

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volume. After one year, the PAYT program reduced trash by 33% resulting in a \$38,668 savings in avoided disposal charges. Coupled with sticker sales of \$74,000, the Crawfordsville program had a first year savings of \$112,668.

PAYT Allowed City to Take On Recycling Duties

When PAYT and recycling were introduced, Crawfordsville decision-makers felt the street department lacked the manpower to handle curbside collection of recyclables. The City decided to contract out this service at a cost of \$2.02 per household per month.

The reduced trash volume due to PAYT rates and the recycling program resulted in a 40% drop in the time needed to collect trash. In 1995, the City's street department began collecting recyclables. Ending the contracted recycling program saved the City an additional \$96,000.

Sustainability

The City of Crawfordsville experienced an immediate and sustained drop in its trash generation following the introduction of the PAYT program. The City believes PAYT has helped instill waste reduction, reuse, and recycling behaviors in residents. Crawfordsville's experience demonstrates that PAYT is an integral part of a comprehensive MSW management program.

MSW Programs Incur Fixed and Variable Costs

Local MSW programs incur two types of expenses. These are identified as:

Fixed costs = Expenses that are relatively constant regardless of the amount of trash or recyclables collected. Examples of fixed costs are collection crew salaries, collection equipment expenses (debt service, maintenance and operation, insurance, etc.), MSW facilities costs (rent, debt service, utilities, insurance), billing and delinquent collection costs, administration (MSW program managers, support staff, legal staff), and education. These costs may be understood as obligations a community would have to pay even if—for some unknown reason—households did not generate trash in a given week. ***PAYT may reduce some fixed costs depending on the reduction and the individual community's situation.***

Variable costs = These are expenses that fluctuate based on the volume of trash that a community generates. Examples of variable costs are per ton disposal fees, per ton processing fees, transportation costs to landfill or MRF, seasonal personnel hired to handle peak trash generation periods. These costs can be reduced by reducing the amount of trash generated. ***PAYT directly reduces variable expenses.***

Indiana "Pay-As-You-Throw" Case Study: City of Greencastle

Local and Program Considerations

Households:

2,800

Collection Arrangement:

Exclusive contract

Container/Unit:

32-gallon bag or can

Rate Structure:

Modified (Three-can limit)

Service Rates:

\$9.50 per month; \$1.00 for cans in excess of can limit.

Barriers:

- Need for contractor cooperation;
- Citizen desire for a fair trash can limit.

Additional Considerations:

- Households were already paying the full-costs for MSW service;
- Citizens were active in planning for the PAYT program;
- City received an IDEM grant to provide curbside recycling bins to eliminate "blue bag" recycling.

From "Blue Bags" to Pay-As-You-Throw

Background

The City of Greencastle contracts for its MSW collection service. In the early 1990s, the City introduced "Blue Bag" recycling. The "Blue Bag" recycling program involves co-collection of trash and recyclable materials in a single vehicle. Households sort recyclables into "Blue Bags" and place these in trash containers. The "Blue Bags" are later separated at a Materials Recovery Facility (MRF). The "Blue Bag" recycling program is the cheapest recycling arrangement, but its performance in terms of waste diversion and recyclable material quality is problematic.

New Mayor Brings MSW Improvements

In 1995, Nancy Michael was elected Mayor of Greencastle. In 1996, the Mayor formed a "Clean City Committee" to improve the City's MSW collection contract. One of the Committee's top priorities was improving the "Blue Bag" recycling program.

Blue Bag" Recycling Issues

The City of Greencastle's "Blue Bag" recycling program encountered public acceptance problems because many residents questioned the effectiveness of actually diverting recyclables once mixed with trash in a single truck. Residents also complained about having to "pay-as-you-throw" for recycling since they had to buy special bags.

New Contract Brings Significant Changes

In 1996, the City of Greencastle developed specifications designed to improve the City's waste reduction and recycling performance. The new contract reduced the trash set-out maximum from ten (10) bags or cans to three (3) 32-gallon bags or cans. The City felt reducing the trash set-out level would improve the recycling diversion rate.

The Greencastle PAYT program included a sticker program for trash in excess of the three can maximum. Residents generating more than three cans in a week are required purchase stickers for \$1.00 per 32-gallon container of trash in excess of the three-can limit.

The City's new contract also included separate collection of recyclable materials. The City applied for and received an Indiana Department of Environmental Management (IDEM) that provided each household an 18-gallon recycling bin.

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For more information, call Mayor Nancy Michael at (765) 653-3100

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"Cost Avoidance" refers to behaviors residents use to circumvent PAYT finance mechanisms. Modified PAYT programs, with a monthly household rate and can limit, minimize an individual's ability

Handling "Trash Peaks"

One of the barriers to PAYT acceptance is that residents fear having to pay extra for occasional "peaks" in trash generation. The City of Greencastle addressed this citizen concern by distributing five (5) free "Extra Trash Stickers" before the holiday season.

These types of accommodations to handle occasional "trash peaks" are referred to as "pressure-relief valves." Other examples of "pressure-relief valves" include the following:

- *Trash Amnesty Weeks;*
- *Spring of Fall Clean-up Days;*
- *Move-In or Move-Out Exemptions;*
- *Storm Clean-Up Weeks following flooding or storm events;*
- *Extra sticker distributions for household determined peaks in trash.*

A community may contract to include any number of "pressure-relief" mechanisms in a local MSW contract. These events may be included in service rates or identified as an additional expense to the contract.

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Greencastle's PAYT Modified Rates

In 1996, the City of Greencastle paid its contractor \$6.49 per household per month. The City in turn charged its households (up to four units) \$8.00 per household per month. The City buys stickers in bulk from the contractor and resells them to residences. The City bills residents for trash service on the monthly water and sewer bill. In 2001, Greencastle's monthly PAYT contract rate is \$8.50 per household and the rate homeowner's pay has increased to \$9.00 per month.

Sustainability

According to Mayor Nancy Michael, the City's PAYT program is well-accepted and continues to promote waste reduction and recycling. The City has considered lowering its can limit from three to two 32-gallon containers, but has taken no action to lower the can limit.

Selecting an Appropriate Can-Limit

One of the most important decisions in developing a modified PAYT program that includes a "can limit" is selecting an appropriate can limit. Making this decision involves balancing the desire to motivate waste reduction and recycling with citizen convenience in order to minimize opposition to the program.

Most communities use one of the following information-gathering techniques to aid in the decision-making process:

- **Curbside Trash Set-out Count** = Trained observers drive through neighborhoods on MSW collection days prior to pick-up. Each observer uses a matrix to record the number of trash cans/bags and recycling bins at each residence. This technique should be done during spring or fall not during the summer trash "peak" or winter trash low. If possible this technique may be repeated to improve the accuracy of the data.
- **Household Surveys** = If resources allow it, a community can survey residents to gather "self-reported" trash set-out data. An advantage of this approach is that it may provide a household's usual trash set-out, while a curbside observation may reflect a low or high waste week.
- **Average Set-outs** = This method involves calculating the "average" weekly trash set out (in pounds) by dividing a community's total MSW by the number of households and collection days. This method is limited in that it does not reflect the variation in household trash set-out within a community.

The ultimate decision on what trash level is appropriate depends on community preferences. Many programs set can limits designed to impact 20% to 35% of households to avoid widespread opposition to PAYT. In many communities, the "can-limit" is a practical decision reflecting political realities. Successful "can limit" programs allow for an acceptable

Indiana "Pay-As-You-Throw" Case Study: Town of Hebron

Community MSW Considerations

Households:
1,100

Collection Arrangement:
Exclusive contract

Container/Unit:
32-gallon bag or can

Rate Structure:
Unit-based initially;
Modified (Fixed Cost plus
unit fee for each bag/can)

Service Rates:
Initially \$1.25 per unit;
\$4.40 per month plus
\$0.75 for cans in excess of
can limit.

Barriers:

- "Cost avoidance"
- Stable revenue stream.

**Additional
Considerations:**

- Program replaced private subscription service;
- Town worked closely with the local solid waste management district to plan the program;
- Town received grant for recycling bins..

Rate Structure and Revenue Stream Impacts

Background

The Town of Hebron, located in northwest Indiana, was the first Porter County municipality to implement "Pay-As-You-Throw" (PAYT) rates for municipal solid waste (MSW) service. The Town worked very closely with the Porter County SWMD to develop and implement this unit-based program.

Hebron's Original "Unit-Based" PAYT Program

Prior to introducing the residential PAYT program, the Town contracted for residential MSW collection through Ooms Brothers, now a division of BFI, Inc. The Town's contract with the collection company required it to pay \$4.40 per household each month.

The Town financed the contract expenses from a rate structure it imposed on residents. The residential rate for service included a \$1.25 per 32-gallon trash container. The Town financed all its MSW program costs through this rate structure.

A "Utility Approach" to Trash

In announcing the program, Town officials were clear that the "Council decided not to charge every residence the same amount for the garbage and recycling collection, but rather to treat garbage like any other utility."

"Cost Avoidance" Creates Unstable Revenue Stream

The Town's program began on July 5, 1995. Within a few months the program's revenues were not keeping pace with program costs. The Town's financing mechanism—which funded all program expenses using a \$1.25 per bag trash fee—had enabled residents to "avoid" program costs.

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What is "Undesirable Diversion?"

"Undesirable diversion" is a term coined by Norm Crampton, former Executive Director of the Indiana Institute on Recycling. Mr. Crampton defined "undesirable diversion" as activities that take trash out of a community's MSW stream, that are not environmentally-responsible or, in some cases, legal. Examples of "undesirable diversion" are:

- Taking trash to work or to relatives with unlimited trash service;
- Taking trash to commercial containers;
- Dumping trash in alleys, along roadside, or in neighbor's containers; or
- Burning or burying trash.

"Undesirable diversion" enables residents to avoid paying for trash service. In this sense, these activities are also called "cost avoidance" behaviors.

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Existing MSW

Contracts are Barrier to PAYT

One of the most formidable barriers to expanding PAYT in exclusive contract or franchise collection communities is the compensation arrangement contained in existing municipal MSW collection agreements.

In the state of Indiana, most MSW collection contracts provide for contractor compensation based only on the number of households served. As opposed to municipal programs, most contract programs do not include expenses that vary with the amount of trash disposed.

When a community will continue to pay a contractor the same amount for trash service, regardless of reductions in trash volume, there is little financial incentive to implement PAYT at the household level.

Communities wishing to consider PAYT should include PAYT service options in their MSW bids. PAYT service options that other communities have included in their bids are:

- Collection only contracts with disposal fees tied to actual trash volume;
- One-can limit PAYT service;
- Two-can limit PAYT service;
- Three-can limit PAYT service; and,
- Separate collection and disposal tied to trash volume.

Communities interested in considering PAYT service options in upcoming bids should contact IDEM-OPPTA at (800)988-7901.

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"Disconnect" between Town Contract and Household PAYT Rates

The massive cost avoidance found in the Hebron program, created serious financial problems for the Town. The reason for the financial shortfall is easy to understand. While the Town of Hebron contracted for service based on a monthly flat-rate of \$4.40 per household, Hebron households were able to avoid purchasing the trash stickers necessary to finance the Town's MSW cost.

The Hebron situation is a clear example of the "disconnect" between municipal MSW contracts and household PAYT rates. Successful PAYT contract programs link municipal contract compensation to the household rates to ensure a stable revenue stream.

Hebron Modifies PAYT Rates

In order to correct the financial problems, the Town of Hebron revised its rate structure. The revised rate structure is:

- Monthly rate of \$4.40 per household (billed on resident utility bills);
- \$0.75 sticker for each bag or can of trash; and,
- \$5.00 tag for bulk items.

The Town offers a free clean-up week each year. Residents bring their trash and bulk items to the clean up event for free disposal.

Sustainability

Despite its initial financial problems, the Town of Hebron's revised rate structure stabilized the revenue stream and has continued to do so. In 2001, the Town negotiated an extension to its MSW contract ensuring the continued viability of the PAYT program.

Waste Reduction Impacts Revenue Stream

Communities considering PAYT need to carefully assess how the economic rewards offered to households will result in reduced trash generation as households recycle more, reuse more, and otherwise reduce trash set-outs. Research has found that PAYT programs reduce the amount of trash sent to landfills by an average of 40%. However, some programs are more successful in reducing trash volume than others.

Accurately predicting PAYT program trash reduction is essential to avoiding revenue shortfalls. Communities are encouraged to contact existing Indiana PAYT program managers for expected trash reductions from different PAYT program options.

Indiana "Pay-As-You-Throw" Case Study: Town of Merrillville

Community MSW Considerations

Households:
10,000

Collection Arrangement:
Licensed private MSW
subscription

Container/Unit:
32-gallon bag or can

Rate Structure:
Modified (1 can limit);
additional services.

Service Rates:
\$9.50 for 1-can service;
Optional MSW service
levels at market prices.

Barriers:

- Political resistance to exclusive contract;
- Contractor opposition

Additional Considerations:

- Town resistance to exclusive contract prompted Licensed PAYT Program ;
- PAYT offered to low-waste households;
- Town must enforce license terms on several MSW companies;
- Town received grant for start-up and yard waste collection costs.

License MSW Companies to Start PAYT Collection

Background

In 1994, the Town of Merrillville was the state's first community to implement "Pay-As-You-Throw" (PAYT) rates using its license authority. The Town limits its involvement in MSW management to licensing the companies, which provide residential collection service.

In 1993, the Town of Merrillville considered establishing a municipal MSW contract including PAYT financing to promote recycling. The Town issued specifications, analyzed bids and recommended awarding a PAYT contract. Several residents and MSW companies objected to the contract. The Town was sensitive to these concerns, but was committed to lowering MSW subscription costs for residents and providing curbside recycling.

MSW Company Opposition to Contract brought PAYT Subscriptions

In a special session of the Town Council, all MSW collection companies serving Merrillville residents said they would offer residents a "one can-limit" PAYT subscription level at the same rate offered by the successful bidder. The Town Council suspended efforts to establish an MSW contract and decided to establish an ordinance formalizing the contract terms and PAYT subscription prices. Using its "license authority" the Town required all MSW collection companies serving Merrillville residents to follow ordinance requirements..

The Merrillville ordinance established the standards for service that all
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What is "Cost Avoidance?"

"Cost avoidance" in a MSW setting refers to residents behaviors to evade financial responsibility for program costs. Examples of "cost avoidance" are identified as:

- *Taking trash to work or to relatives with unlimited trash service;*
- *Taking trash to commercial containers;*
- *Dumping trash in alleys, along roadside, or in open fields;*
- *Sharing trash service with neighbors;*
- *Burning, burying, etc. of trash.*

These "cost avoidance" behaviors result in "undesirable diversion." Norm Crampton, former Executive Director of the Indiana Institute on Recycling, coined the term "undesirable diversion" since these activities—and the waste reductions—are not environmentally-responsible or legal. In many communities, these activities are illegal.

To the extent that PAYT-related "cost avoidance" results in diverting trash from a community's MSW stream, programs will report declines in trash volume. PAYT program managers must monitor "cost avoidance" and "undesirable diversion" to

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MSW collection companies must follow if they wish to serve Town residents.

Standards for MSW Subscription Service

- Curbside recycling included in all MSW subscription programs at no extra charge;
- One (1) can-limit trash service subscription offered at the contract prices;
- Other MSW subscriptions offered at market prices;
- MSW companies must provide a toll-free telephone number for customer complaints and questions;
- Insurance requirements to ensure companies can be held financially-responsible for damage to property or individuals; and,
- MSW companies must report the volume of recyclable materials collected from residents.

Implementation Issues

The Town of Merrillville's PAYT licensing program has encountered some implementation issues. These are:

(1) Legality of Price-Setting:

The Town of Merrillville PAYT program serves as a unique model to communities wishing to introduce PAYT but unwilling to establish a municipal contract or government-run MSW program. Despite initial concerns about the legality of MSW subscription "price-setting" the program has not seen any legal challenges.

(2) "Self Selection" Issues for Collection Companies and Waste Reduction:

MSW collection representatives have expressed complaints that the program enables residents to seasonally switch their MSW service level. The "self selection" enables households to subscribe for the "one-can" PAYT program during the winter and spring, but switch to "unlimited service" in the summer and fall to allow for higher waste volume during those months. The household's ability to match service with existing waste generation means that the PAYT subscription does not motivate households to change their waste generation habits. "Shared service" remains a concern for collection companies since the Merrillville program does not require each household to have MSW collection service.

(3) Administration:

Administering the PAYT Licensing program has proved cumbersome for the Town. Former Town Manager Thomas Keilman said that the Town is often called upon to intervene in disputes between MSW collection companies and complaining residents. Town officials have discussed establishing an exclusive franchise in order to streamline administration of the residential MSW program, but no action has been taken.

Government Involvement in MSW Influences PAYT Service Flexibility

The extent to which a community is involved in MSW collection influences the community's control over PAYT program decisions. Municipal programs nearly allow complete government control over decision-making. Contract programs require a partnership in which communities must establish program components that are profitable and manageable for collection companies. As government involvement decreases, communities must work with MSW collection companies to ensure private sector participation in a PAYT collection program. The continuum below demonstrates government involvement in MSW and community examples.

Decreasing government involvement			Increasing government involvement	
Private Subscription	License Authority	Exclusive Contract	Rural Drop-off	Municipal/Govt-Run
Various private	Merrillville	Greencastle, Hebron,	Dubois Co. SWMD,	Bicknell,
Crawfordsville,		Ligonier, Syracuse,	Monroe Co. SWMD,	Delphi, Ferdinand,
MSW companies				

Indiana "Pay-As-You-Throw" Case Study: Monroe County SWMD

Local and Program Considerations

Population:
120,665

Collection Arrangement:
Rural drop-off service

Container/Unit:
32-gallon bags

Rate Structure:
Unit-based/linear

Service Rates:
As of January 1, 2002, fee will rise to \$1.00 for 32-gallon bag and \$0.50 for each 16-gallon bag. Each sold in packages priced at \$10.00. Free unlimited recycling at drop-off centers.

Barriers:

- Concern over costs;
- Illegal dumping.

Additional Considerations:

- City of Bloomington introduced a PAYT sticker program at the same time;
- District pays retailers a \$0.05 for each bag sold to compensate them for lost bag sales.

"If, At First, You Don't Succeed.... Try Again."

Background

In 1991 the Monroe County Solid Waste Management District was eager to provide "Pay-As-You-Throw" (PAYT) drop-off trash service to residents without private subscription service. The District's first drop-off PAYT effort failed to receive Board approval. "As it turned out," said Michael Frey, then Manager of the District, "that failure led to success, because we went back to the drawing board and did a much better planning job."

The improved planning effort culminated in a comprehensive report that detailed the need for a rural trash drop-off program. The 1993 report justified the need for affordable trash drop-off service citing residential burning and illegal dumping, as well as calculating the unit cost for the program.

The Monroe County SWMD also did a better job building public support for the project the second time. The District used the public comments from the earlier PAYT attempt to build a better program. The District also conducted a series of four public hearings to formally gather public input. The District Manager asked one of the program's most vocal critics to serve on a planning committee to improve the program proposal. "The second time we did it right," exclaimed Frey at a PAYT planning conference in 1997.

Consider "Neighbors" When Planning for PAYT

The Monroe County SWMD PAYT planning was influenced when the City of Bloomington (located within Monroe County) announced its PAYT curbside trash collection program. When it began, the Bloomington program would pick-up trash for \$0.75 per 32-gallon container of trash. The District did not feel it could charge the full-cost of \$0.73 per 32-gallon bag. The District decided to offer its "Big Orange Bags" at \$0.50 each. The District felt it had to subsidize the program or the public would reject it.

District Drop-off Service and Bag Fees

The District offers drop-off service at four staffed collection centers. The use of brightly-colored orange bags makes it easy for personnel to verify that residents are complying with the project without having to closely inspect each bag.

The District established a retail network where the "Big Orange Bags" (called, "BOB") are sold. The bags are sold in packages of 10.
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Indiana "Pay-As-You-Throw" Case Study: Monroe County Solid Waste Management District

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Bags or Stickers?

One of the most basic decisions a community can make when starting a PAYT program involves the choice of bags or stickers.

The Monroe County SWMD selected brightly-colored orange bags. This was done to make it easier for personnel to determine if residents were complying with the program without having to closely inspect each bag.

Mark W. Davis, Director of the Monroe County SWMD offered the following considerations to assist others in selecting bags or tags:

- Bags limit the actual volume, stickers enable residents to use various size bags or containers without regard to volume;
- Ease of recognition by drop-off or curbside collection personnel;
- Retail shelf or inventory space availability;
- Bags require more frequent deliveries to retail outlets.

No "On-Site Sales" of Bags in Monroe County

The Monroe County SWMD made the decision to *not* sell bags at the drop-off centers. The reason was concern for the safety of the staff. "It wasn't that we didn't trust people, we just didn't want to make our employees targets," explained Mike Frey. The District feels citizen convenience has to be balanced with employee safety.

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In response to small waste generators, the District began offering a 16-gallon orange bag, called "LOB" for "Little Orange Bag." The LOB, which is very popular with seniors, initially sold for \$0.30 each. Beginning in 2002, the LOBs will sell for \$0.50 each. "This increase in pricing will make the program self-sufficient," Monroe County SWMD Director Mark W. Davis said. "Due to increased budgetary pressures, the District took a position that our programs should be more self-sufficient." When Davis explained the increased fees he added, "It really helped that Bloomington also raised its fees."

Retailers Profit from BOB and LOB Sales

Each retailer receives \$0.05 for each bag sold. The District felt giving retailers a share of the bag sales was fair because the District bag has supplanted other kitchen and trash bags in many Monroe County households.

Illegal Dumping Enforcement

The Monroe County SWMD employs a full-time Compliance Officer to enforce county anti-dumping ordinances. The District also sponsors an "Adopt-a-Road" program to combat roadside dumping within Monroe County. The District also conducts roadside clean-up programs.

Monroe County SWMD Addresses "Barriers"

The Monroe County SWMD's PAYT planning efforts anticipated "barriers" to implementing PAYT. The District's strategies included:

Low Income Plan = The District worked with the South Central Community Action Program (CAP) to arrange for the provision of free bags to households that qualified for energy assistance.

Convenient Bag Distribution Network = The District staff worked with local grocery stores, convenient marts, gas stations, and hardware stores to establish a network of retail sales outlets for the bags.

Illegal Dumping Concerns = The District committed its Compliance Officer to enforcing the anti-dumping ordinance to reassure residents about dumping, though the District felt little dumping would result.

Residential Burning = The District's research found that trash burning was more likely than dumping in rural areas. The District used its educational program to deter trash burning since the District and County Health Department lacked authority to enforce the state's "Open Burn Ban."

PAYT Linked to Expanded Services = Initial changes linked to PAYT introduction were increased recycling & trash drop-off sites from 3 to 4; expanded recycling service; and establishment of "Trading Posts." The recent increase in PAYT fees is linked to additional expanded services including a fifth recycling & trash drop-off site; further expanded recycling services; and semi-annual "Haz-Mat" Collection Days at the District's drop-off sites.

Indiana "Pay-As-You-Throw" Case Study: Town of Syracuse

Local and Program Considerations

Households:
1,090

Collection Arrangement:
Exclusive contract

Container/Unit:
30-gallon disposal units

Rate Structure:
Modified

Service Rates:
156 disposal units
provided per year;
additional stickers sold for
\$0.50 each.
Free unlimited
drop-off recycling.

Barriers:

- Affordable service;
- Part-time residents made education difficult.

Additional Considerations:

- Community has significant number of residences that serve as summer or vacation homes only;
- Community wanted a convenient program that was easy for full-time and part-time residents to understand and follow.

Pre-Paid Disposal Bags for Can-Limit Program

Background

In 1991, the Town of Syracuse established a "three-can" limit for its exclusive contract residential MSW program. An innovative aspect of the Town of Syracuse PAYT was that it included "pre-paid" disposal units for use by residents during the year.

The Town's contract required the MSW collection company to provide each Syracuse household with 156 30-gallon specially-designed trash bags. Households could use their 156 bags as they determined. The Town of Syracuse PAYT program is distinguished from other "can limit" type programs for this reason.

Usually, can limit programs have a set-out limit (1, 2, 3, or more cans) per week. Households do not use stickers or bags unless the trash volume exceeds the set-out limit. One of the complaints about can limit programs is that household trash patterns can vary greatly from week-to-week. Households are forced to pay extra when they exceed the can limit, but cannot save unused disposal units for later use. By providing households with a supply of disposal units, the Town of Syracuse enables residents to choose when they will "consume" the 156 disposal units the contract provides.

Because the lakefront town has a significant number weekend and vacation residents, providing a year's worth of disposal units was a convenient way
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Identifying and Compiling MSW Program Costs

One of the most difficult tasks in considering the economic feasibility is accurately identifying MSW program costs. This is especially true where street department, general services or public works staff conduct waste collection along with other duties. The Indiana PAYT Technical Assistance Project developed a Local MSW Program Information to assist communities identify all relevant MSW program costs. The *Indiana PAYT Tool Kit* includes strategies for gathering program costs and guidelines for including them in PAYT rate structure development.

The cost information from the form can be input into the *Indiana Modified PAYT Rate Spreadsheets* to allow communities to evaluate unit-based pricing, fixed and variable rate pricing, and can limit programs. These spreadsheets are included in the *Indiana PAYT Tool Kit* and utilize Lotus spreadsheet software.

For a free copy of the *Indiana PAYT Tool Kit*, contact IDEM-OPPTA at (800) 988-7901

For more information, call Brian Redshaw at (219) 457-3348

Indiana "Pay-As-You-Throw" Case Study:

Town of Syracuse

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PAYT & MSW Costs

Many communities are interested in PAYT financing because these volume-based user fees are so successful in reducing the volume of trash sent to disposal sites. On average, PAYT programs reduce the volume of trash by 40% from pre-PAYT levels.

Few communities will see an equal reduction in overall MSW costs. Charlotte Frola, Project Officer for The Solid Waste Association of North America (SWANA) cautions, "PAYT cost savings are usually limited to the disposal cost component not the overall MSW program costs."

Those considering PAYT financing should have realistic expectations about the potential cost savings offered through volume-based fees.

Assume a community's overall MSW program budget is \$200,000. Disposal costs represent 50% of MSW program costs. If a PAYT program (with average trash reduction results) is introduced, the community's disposal costs may be reduced by 40%. This translates into a \$40,000 savings in avoided disposal costs.

As disposal costs increase,

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facilitate PAYT program participation among part-time residents. Most residents with vacation properties never purchase additional trash units.

Residents who do not use all their bags may give them to friends, neighbors, or relatives. When a household exhausts its supply of bags, it must purchase additional disposal units for \$0.50 each.

Change from Bags to Stickers

In 1999, the Town replaced the disposal bags with pre-paid disposal stickers. According to former Town Manager Matthew Vignault, the Town "switched to stickers because the bags were considerably more expensive and this change kept prices reasonable."

MSW Program Financing

The Town of Syracuse uses the General Fund to finance the cost of the contract MSW program. The Town sells the additional stickers. The Town offers drop-off collection of recyclable and organic materials. Bulk items (refrigerators, stoves, etc.) are collected by the contractor. Fees for bulk item collections are based a rate schedule submitted as part of the Town's bid package.

Sustainability

The Town of Syracuse's PAYT program continues to enjoy broad public support. The convenience and fairness of the "pre-paid" disposal units is considered one of the reasons for this. The ability of Syracuse residents to determine when they will use their allotted 156 disposal units makes this PAYT program a model for fairness, convenience, and flexibility.

Great Variety Found in Indiana PAYT Programs

PAYT financing for residential MSW programs has existed in Indiana for over ten years. Nearly 50 Indiana communities utilize PAYT financing for residential MSW programs. The number and varieties of PAYT programs found in Indiana support the contention that PAYT can be adapted to any community regardless of size, collection arrangement, existing financing, MSW program services, and local customs and preferences.

The Indiana PAYT Technical Assistance Project compiled information on communities using PAYT financing. Indiana PAYT programs reflect the Midwestern trend of modified PAYT programs. Many Indiana programs use a combination of General Fund and volume-based use fees to finance MSW program costs.

Communities interested in PAYT financing for residential MSW service can use the Indiana PAYT Community Database to identify similar communities or PAYT program preferences to facilitate modeling.

Indiana "Pay-As-You-Throw" Case Study: City of Tell City

Local and Program Considerations

Households: 8,500

Collection Arrangement: Municipal

Container/Unit: 32-gallon bag or can

Rate Structure: Modified

Service Rates: \$4.00 per month; plus
\$0.75 sticker for each bag
of trash.

Barriers:

- Resident uncertainty and concern over costs;
- No utility billing system in place.

Additional Considerations:

- Kept PAYT program simple to avoid problems and misunderstanding by citizens.
- Required all trash to be bagged as a "pre-condition" for PAYT.

"Bag It and Tag It" Pay-As-You-Throw

Background

The City of Tell City, located in southern Indiana's Perry County, introduced a "sticker" "Pay-As-You-Throw" (PAYT) program in August 1997. The City laid the groundwork for a PAYT sticker program earlier that year by requiring that all trash be "bagged" in order to be collected.

The City of Tell City has a municipal MSW program, in which City employees operate the program. The City offers weekly trash and curbside recycling to residential customers.

Mayor Bill Goffinet led the City's PAYT efforts and is considered one of the leading advocates for PAYT throughout Indiana. Mayor Goffinet felt it was important to keep the PAYT program simple in order to avoid problems related to inconvenience and misunderstanding.

Tell City's Rate Structure

The City of Tell City established a "modified" PAYT program. In 1997, Tell City rate structure included the following components:

- (1) Monthly flat-rate of \$3.00 per household billed on the water & sewer bill;
- (2) Disposal unit sticker fee of \$0.75 per bag.

PAYT Impacts

Tell City's PAYT program reduced the residential trash volume by nearly 40%. The City has remained at this level since starting PAYT in 1997.

Simplicity and Convenience Keys to Tell City Success

Mayor Bill Goffinet believes the City of Tell City's program has been successful since it is easy for households to understand and comply with the program. The City has also provided four convenient seasonal "Clean-up Days" at which residents may dispose of an unlimited amount of trash without using stickers.

Sustainability

Mayor Goffinet believes the PAYT program has met with broad public support. With respect to political concerns over PAYT, Mayor Goffinet said, "I was re-elected in 1999, and I would say the PAYT program was an asset for me. I would not hesitate to campaign on the success of this program."

For more information, call Mayor Bill Goffinet at (812) 547-5111

Indiana "Pay-As-You-Throw" Case Study: City of Tell City

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Rate-Setting in a Modified PAYT Setting

The most important PAYT planning activity is developing a viable rate-structure. The City of Tell City is an example of how a well-developed rate structure can result in a stable revenue stream and program sustainability. In a "modified" PAYT program—like the program in Tell City—the rate-structure includes more than one component.

One component addresses "fixed costs" that remain relatively constant regardless of changes in MSW volume. The second component in a modified PAYT program funds "variable costs," which are directly impacted by changes in trash generation.

Generally, the rate structure includes a flat-rate monthly fee and a variable component tied to actual trash volume. Calculating a modified PAYT program rate structure involves two formulae. They are shown below:

Formula for Fixed Costs Monthly Rate: *Total MSW Fixed Costs*

(Number of Households) x 12

Formula for Variable Costs Unit Fee: *Total Variable Costs*

*Number of Projected Trash Units**

**The projected number of bags should be reduced based on the estimated reduction in trash due to PAYT implementation.*

Computer-Based Software Assists Rate Structure Planning

The US Environmental Protection Agency has funded the development of three PAYT rate-structure computer software programs. These programs are identified as:

Price-Setter for Unit-Based Programs = This software, developed by the New Hampshire Governor's Recycling Office, is designed to streamline rate-structure design for "unit-based" PAYT programs. The software allows communities to enter trash collection, trash disposal, and recycling costs. The program calculates the "unit cost" for MSW service. This software is available at the US EPA website;

PAYT Rate-Setter for Unit-Based Modified Programs = This software, developed by the Association of Indiana Solid Waste Management Districts and the Indiana Department of Environmental Management, can assist communities generate unit-based and modified PAYT rate structures. This software is a Lotus application and is available from the IDEM-OPPTA (after November 1, 2201) at (800) 988-7901;

Rate-Maker = This EXCEL software program was developed for the City of Seattle's MSW program. This program is appropriate for large communities (100,000 population or greater) with municipal (government-operated) collection programs. This software reflects a utility approach to establishing "cost of service rates" for MSW.

If you have questions about which computer application is appropriate for your community, contact Jeanann Georgas at (219) 663-8526.

Indiana "Pay-As-You-Throw" Case Study Town of Winfield

Local and Program Considerations

Households: 450

Collection Arrangement:
Exclusive contract

Container/Unit:
32-gallon bag or can

Rate Structure:
Modified (Two-can limit)

Service Rates:
\$9.50 per month; \$1.00 for
cans in excess of can limit.

Barriers:

- Resident uncertainty and concern over costs;
- No utility billing system in place.

Additional Considerations:

- Program replaced private subscription service that averaged \$15.00 per month;
- Contractor responsible for billing;
- Town worked closely with the local solid waste management district to plan the program;
- Town received \$10,000 grant for education and promotion.

Partner with Contractors for PAYT Planning

Background

The Town of Winfield, located in northwest Indiana, was the first Lake County municipality to implement "cost of service" rates for municipal solid waste (MSW) service. The Town was incorporated in 1993 to prevent annexation by a neighboring community. As a new municipality, the Town had no prior involvement in MSW.

In 1995 the Town Council sought and received assistance from the Lake County Solid Waste Management District to plan for a residential MSW program. The Town sought extensive input from area MSW collection companies in designing its first MSW collection program.

"Do It Right the First Time"

The Town Council was committed to putting together a "state-of-the-art" MSW program so it would not have to revisit the issue in the near future. The goals for the program were:

- To reduce monthly MSW cost for households;
- To promote recycling and waste reduction; and,
- To maximize convenience for residents.

Planning activities, which were conducted during 1996 and 1997, included the following components:

- Council workshop sessions and informal discussions with prospective MSW contractors to gather information on "best-management practices" to be included in MSW specifications;
- Household survey to all residents to gather information on preferences for service and financing;
- Curbside trash and recycling set-out rates to assess weekly MSW generation; and,
- Close cooperation with local SWMD to ensure compliance with the District's Solid Waste Management Plan.

Household Data Essential for Planning

The Town's household survey provided information that was essential in planning the program. The Town proposed a "two-can" service program because 65% of households reported trash volume at or below this level. The Town felt confident that "cost of service rates" would be accepted because nearly 70% of households reported that recycling residents should pay less for service than those who do not recycle.

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Indiana "Pay-As-You-Throw" Case Studies: Town of Winfield

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Illegal Dumping Fears

The Town of Winfield documented the level and contents of roadside dumping *prior* to program start-up. For the most part, the trash was fast food waste and beverage containers. The Town did not see an increase in dumping or dumping complaints

Monitoring Program to assess PAYT Performance

In order to document the impact of the Town's "Two-Can" Trash Limit program, the Town of Winfield included a thorough performance monitoring protocol. The 1999 monitoring effort evaluated:

- Recycling diversion rates;
- Household trash set-outs; and,
- Household follow-up survey.

The PAYT increased recycling participation from 74% to 98%. The households reported a decrease in trash volume as 80% reported set-outs at two-cans or less.

The "satisfaction rate" for the PAYT trash program was 93%. The recycling program scored a 94% satisfaction rate.

Two-thirds of respondents stated the \$1.00 sticker fee for extra trash prompted their household to reduce trash.

Over 80% of Winfield households would recommend the "two-can"

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Approximately nine months prior to implementing the program, the Town submitted an application to the Indiana Department of Environmental Management for a grant to assist in educational and promotional activities associated with the new "pay-as-you-throw" program. The Town received a \$10,000 for these activities.

In the Fall of 1997, the Town issued specifications for an MSW contract. Contractors were required to submit pricing for unlimited trash and recycling service and two-can trash limit with unlimited recycling. The bid alternatives also considered the cost of having the Town or the contractor do the billing for MSW service.

The Town selected Illiana Disposal, then a division of Allied Disposal, as the exclusive provider of residential MSW service for the Town of Winfield. Absent a water or sewer utility, the Town contract including quarterly billing for MSW service.

Two-Can Limit Household Rates

YEAR:	Monthly Rate:	Extra Sticker Fee:
1998	\$8.51	\$1.00
1999	\$8.98	\$1.00
2000	\$9.35	\$1.10
2001	\$9.74	\$1.10

Recycling Diversion Rate

The Town of Winfield's PAYT program has led Lake County communities in recycling diversion performance. In 1998, the Town's recycling diversion rate (calculated as *tons recycled/Total MSW tons*) topped 32%. This level has declined to approximately 25%.

Enforcement and Implementation Issues

Though not included in the original specifications, Illiana Disposal has offered 96-gallon and unlimited trash service subscriptions. The "self-selection" allowed in the current system enables high trash volume residents to "opt-out" of the PAYT program, thereby reducing the waste reduction and recycling promotion component of the "two can" PAYT program. The contractor continues to believe the billing service, which includes collecting delinquent accounts, is a problem.

Public Acceptance and Sustainability

The Town has reported no increase in dumping since starting PAYT. Public acceptance remains strong, with some residents asking for a "one-can" level to reward those generating less than two cans of trash.